

**WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS**  
**PATENT OF THE UNITED STATES IS:**

1. A color toner composition comprising:

5 toner particles comprising:

a binder resin; and

a colorant and a release agent dispersed in the binder resin, and

a titania as an external additive,

wherein the colorant has an average dispersion particle diameter not greater than 0.5

10  $\mu\text{m}$ ;

the release agent and the binder resin are insoluble to each other;

the toner particles satisfy the following relationship:

$$0.05 \leq D_w/D_4 \leq 0.4,$$

wherein  $D_w$  represents an average dispersion particle diameter of the release agent and  $D_4$

15 represents a weight-average particle diameter of the toner particles; and

the titania has a segregation rate of from 0.5 to 5 %.

2. The color toner composition of Claim 1, wherein relationship

$$D_4/D_n \leq 1.3$$

20 is satisfied, wherein  $D_4$  represents the weight-average particle diameter of the toner particles and the  $D_n$  represents a number-average particle diameter of the toner particles.

25 3. The color toner composition of Claim 1, wherein the release agent is one of polyolefin waxes and carnauba waxes which are subjected to a treatment of eliminating free fatty acid therefrom.

30 4. The color toner composition of Claim 1, wherein the release agent has a melting point of from 85 to 95 °C and a ratio ( $M_w/M_n$ ) of a weight-average molecular weight ( $M_w$ ) to a number-average molecular weight ( $M_n$ ) of from 1.0 to 1.2.

5. The color toner composition of Claim 1, wherein the titania has an average primary particle diameter of from 0.002  $\mu\text{m}$  to 0.03  $\mu\text{m}$ .

6. The color toner composition of Claim 1, wherein the binder resin has a softening

point of from 80 to 110 °C.

7. The color toner composition of Claim 1, whercin the binder resin comprises at least one of a polyester resin and a polyol resin.

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8. The color toner composition of Claim 1, whcrein the toner particles further comprise a charge controlling agent, and wherein the charge controlling agent comprises a metallic salt of salicylic acid derivatives.

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9. A method for manufacturing a color toner comprising:

kneading a first binder resin, a colorant, and water upon application of heat to prepare a master batch pigment;

kneading a second binder resin, a release agent that is insoluble to the binder resin, and the master batch pigment upon application of heat to prepare a mixture; and

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pulverizing the mixture to prepare a color toner.

10. The method of Claim 9, further comprising:

mixing the color toner with a titania by a mixer having a mixing blade for not less than 50 sec,

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wherein the mixing blade has an end periphral velocity of from 15 to 35 m/sec.

11. A two-component developer comprising the color toner composition of Claim 1 and a carrier.

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12. A container containing the color toner composition of Claim 1.

13. A container containing the two-component dveloper of Claim 11.

14. An image forming apparatus comprising:

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at least one latent-image bearer configured to bear at least one electrostatic latent image;

an image devcloper configured to develop the electrostatic latent image with at least one color developer comprising a color toner to form a color toner image on the latent-image bearer;

a transferer configured to transfer the toner image onto a transfer sheet optionally via an intermediate transfer medium,

wherein the color toner comprises toner particles comprising:

a binder resin; and

5 a colorant and a release agent dispersed in the binder resin, and

a titania as an external additive,

wherein the colorant has an average dispersion particle diameter not greater than 0.5  $\mu\text{m}$ ;

the release agent and the binder resin are insoluble to each other;

10 the toner particles satisfy the following relationship:

$$0.05 \leq D_w/D_4 \leq 0.4,$$

wherein  $D_w$  represents an average dispersion particle diameter of the release agent and  $D_4$  represents a weight-average particle diameter of the toner particles; and

the titania has a segregation rate of from 0.5 to 5 %.

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15. The image forming apparatus of Claim 14, wherein the transferer is further configured to transfer the toner image onto the transfer sheet through an intermediate transfer medium.

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16. The image forming apparatus of Claim 14, further comprising:

a cleaner configured to collect the color toner remaining on the latent-image bearer;

and

a recycler configured to recycle the color toner collected by the cleaner to the image developer.

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17. The image forming apparatus of Claim 15, wherein

the latent-image bearer bears plural electrostatic latent images;

the image developer develops the plural latent images with plural color developers comprising a different color toner to form plural toner images on the latent-image bearer; and

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the transferer transfers the plural toner images onto the intermediate transfer medium to form the color toner image on the intermediate transfer medium, and then transfers the color toner image onto the transfer sheet.

18. The image forming apparatus of Claim 15, including plural latent-image bearers,

wherein

each of the latent image bearers bears an electrostatic latent image;

the image developer develops the latent images with plural color developers

comprising a different color toner to form plural toner images on the latent-image bearers;

5 and

the transferer transfers the plural toner images onto the intermediate transfer medium to form the color toner image on the intermediate transfer medium, and then transfers the color toner image onto the transfer sheet.

10 19. The image forming apparatus of Claim 15, wherein the plural latent-image bearers are arranged to face the intermediate transfer medium.

20. The image forming apparatus of Claim 14, including the intermediate transfer medium, wherein the latent-image bearer is pressed against the transferer by a roller.

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21. An image forming method comprising:

forming at least one electrostatic latent image on a latent-image bearer;

developing the electrostatic latent image with at least one color developer comprising a color toner to form a color toner image on the latent-image bearer;

20 transferring the toner image onto a transfer sheet optionally via an intermediate transfer medium,

wherein the color toner comprises toner particles comprising:

a binder resin; and

a colorant and a release agent dispersed in the binder resin, and

25 a titania as an external additive,

wherein the colorant has an average dispersion particle diameter not greater than 0.5  $\mu\text{m}$ ;

the release agent and the binder resin are insoluble to each other;

the toner particles satisfy the following relationship:

$$0.05 \leq D_w/D_4 \leq 0.4,$$

wherein  $D_w$  represents an average dispersion particle diameter of the release agent and  $D_4$  represents a weight-average particle diameter of the toner particles; and

the titania has a segregation rate of from 0.5 to 5 %.

